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ABSTRACT

Constructivism is a theory about knowledge, whereas reflective practice is a professional development strategy with roots in the constructivist paradigm. A way to integrate these two conceptual frameworks within the context of professional development for prospective administrators is offered here. Constructivism and reflective practice share basic assumptions about knowledge and learning. Central to both is the belief that ideas and action are integral, interdependent, and essential aspects of the learning process. Pedagogical strategies for effective teaching in the context of administration programs include engaging the learner; exploring personal beliefs, knowledge, and experience; challenging ideas and facilitating reconceptualization; and providing opportunities for experimentation and assessment. Since both paradigms assume that learning begins with a personal desire to learn, it is the instructor's initial responsibility to stimulate the learner's interest. Constructivism and reflective practice both emphasize the importance of conceptual conflict, a "perturbation," or problem as stimulus for learning. The principles of constructivism and reflective practice suggest that these general strategies lead more effectively to learning in which the ultimate goal is competent action or improved performance. These strategies are effective because they redefine the purpose of learning, and their application in the professional development setting facilitates the integration of theory into practice. (RJM)

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Using Constructivism and Reflective Practice to Bridge the Theory/Practice Gap

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Establishing the relevance of theory for practice in the context of an administrative preparation program is a challenge that has confronted the field for years. Students in educational administration programs typically reject the lessons of research as impractical or inapplicable often because they lack validity in the context of their experience. Some students, for example, neither see nor accept the reality of problems that researchers describe despite extensive supporting data. Others accept the problem but reject research-based strategies. Still others endorse the proposed alternatives but perceive change as impossible in their own rigid and hostile environments. The challenge for the professor of educational administration, then, is to bridge this gap – to enable students to see the formal knowledge base as a legitimate, valid, and crucial resource for administrators who want to be change agents in their schools.

All of the participants in this symposium have been engaged in a process of personal and collective reflection accompanying our efforts to restructure programs, courses, and curricula to more effectively enable students to utilize theory and research and create more effective learning environments in their own classrooms and schools. In this process, we have developed curricular and instructional strategies that, based on student feedback and personal observation, appear to be effective in bridging the theory/practice gap. Our task in this session is to describe our practice and to reflect on our own pedagogical theory within the framework of constructivism and reflective practice.

Like other professors of educational administration, we approach the discussion of learning theory as learners, with enthusiasm but limited expertise. Our purpose then is to initiate a dialogue about pedagogy in the professorship by focusing on our own practice.

An initial analysis suggests that our pedagogical strategies have been effective in generating student enthusiasm for theory as a means to more effective practice because they incorporate principles of constructivist learning and reflective practice. The first article discusses this theoretical orientation and identifies key strategies associated with these learning models. This presentation is inherently limited. Analytic writing is largely a sequential process. Learning, in contrast, does not occur in a predictable way

and master teachers do not teach in a lock-step fashion. By definition, it is not a representation of the complexity and richness of the teaching craft.

The papers that follow will move us one step closer to the reality of the classroom experience as professors of educational administration and leadership endeavor to describe their own craft. Obviously self-reflection is also limited - by recall, by awareness, and by the complexity of the process. Recognizing our own limitation, however, we offer these articles as a stimulus to further discussion, debate, and additional research on classroom practice in our discipline.

Although some argue that the principles of constructivism were more readily incorporated into pedagogical practice with adults than with children (Lambert et al., 1995), much of the literature on constructivism is framed within the context of elementary and secondary education. Similarly, although there is increasing interest in the use of reflective practice in administrative preparation, the bulk of the work in the professional development area deals with teacher education. Our purpose here is to integrate these two powerful conceptual frameworks and discuss them within the context of professional development for prospective administrators. How can these two models be integrated within the professional development classroom? More specifically, how can they be used to foster learning, and specifically, how can they support the integration of theory and practice?

Reflective Practice and Constructivism

Reflective practice is a professional development strategy with roots in the constructivist paradigm. Originally described by Argyris & Schon (1974) and developed further by Schon (1983, 1987) as a learning strategy for professionals, the primary agenda of the reflective practice model is behavioral change and specifically change in the dimensions of professional practice. From a learning perspective, the most crucial component of this model is the theory-in-use. It is these deeply internalized beliefs or assumptions about cause-effect relationships that shape behavior. Consequently, if the goal of professional development is improved practice, success can be achieved only by exploring and modifying existing theories-in-use. These theories-in-use, while very powerful in their influence, are also very elusive. Functioning almost like a genetic code, they work quietly, silently, and out of sight of the conscious mind. Schon's description of the cyclist trying to explain how to ride a bike is perhaps the most famous illustration, but those involved in administrative preparation can give their own examples.

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How then does change occur? Osterman & Kottkamp (1993) place reflective practice in a constructivist paradigm and describe the reflective practice as an experiential learning cycle consisting of 4 stages: experience, assessment, re-conceptualization, and experimentation. With its focus on professional development, a practice-based experience typically provides the stimulus for the learning cycle to begin. Confronted with a troublesome or surprising event, the practitioner steps back to examine the experience looking at intentions, actions, and outcomes. In the process of observing and analyzing this experience, problems emerge. The problem or problems -defined as a discrepancy between intended and actual behavior or between goals and actual outcomes- acts as the stimulus to learning. Confronted by a recognition that actions are not consistent with values or that actions are ineffective in achieving stated goals, the professional seeks for new understanding and new strategies. The new ideas that emerge in this process then become hypotheses to be tested in action. Through successful experience, new behaviors and ideas then become integrated into patterns of action.

Constructivism is a theory about knowledge (Bettencourt, 1993; Brooks & Brooks, 1993; Tobin, 1993; Tobin & Tippins, 1993). Included in its conceptual framework are beliefs about knowledge, the role of prior knowledge, and conceptual change (Taylor, 1993). A central tenet is that knowledge and beliefs are formed within the learner and cannot be transmitted without the active involvement of the learner. Through experience, we develop concepts, ideas or theories about how we should act. Based on experience, we learn that certain actions lead to certain results. Through this experience, we develop theories about how the world works and we act accordingly. ((Bettencourt, 1993; Tobin & Tippins, 1993). Over time, these patterns of action become habitual.

As in reflective practice, the ultimate goal of learning is not simply the acquisition of information, but the development of ideas as a basis for enhanced performance, or the active use of knowledge (Perkins, 1992). The continued development of knowledge (learning) builds on prior knowledge and grows out of experience, and specifically problematic experience. When results are not the ones that we anticipated, these "perturbations" lead us to become aware of our thinking and seek to generate new solutions, or hypotheses (Bettencourt, 1993). Learning, or the integration of new ideas into the knowledge base, is most likely to occur when a tested solution actually leads to the desired result.

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A comparison shows that both models adopt similar beliefs about knowledge and learning, its purpose and processes. In both learning models, the goal of the learning process is rooted in action. Schon (1983, 1987) specifically focuses on professional practice, constructivism aims more generally at action or the ability to apply knowledge.

Both emphasize the importance of cognition, maintaining that ideas influence action. Accordingly, both identify the importance of understanding prior knowledge as a basis for cognitive development. Incorporating Argyris' (1974) seminal work, reflective practice expands on constructivism, I believe, with its distinction between two types or levels of cognitive activity: the theory-in-use and the espoused theory. From Schon's perspective, it is this theory-in-use or the deeply internalized beliefs or assumptions about cause-effect relationships that shape behavior. Consequently, if the goal of professional development is improved practice, success can be achieved only by exploring and modifying existing theories-in-use. This is an important aspect of cognition, but not the only one. Schon also talks about the espoused theories. These are ideas, beliefs or assumptions that exist at a conscious level. In contrast with the embedded theories in use, these change with relative ease in response to new information or ideas but are not necessarily reflected in action. To arrive at a thorough awareness of and understanding of prior knowledge, then, also requires an exploration of the theories-in-use.

Maintaining that behavior reflects beliefs that have developed through a long process of acculturation, reflective practitioners pose this as a difficult task. To paraphrase Margaret Mead, "if fish were learning about their culture, the last thing they'd discover is water." People behave in very predictable ways and these actions reflect ideas and behaviors learned through a lifetime of experiences, many of which have been deeply absorbed though totally forgotten.

Another shared belief is that learning is constructed through experience. Problematic experience can initiate the learning process and subsequent experiences lead to changes in understanding and action. Whether described as conflict, discrepancy, perturbation, dissonance, or problem, some type of unsettling experience is a necessary stimulus to cognitive growth. The emphasis on experience recognizes that learning is an active process requiring the student's engagement. Learning, in the constructivist paradigm, is always developmental and occurs when new experiences lead to changes in understanding. In this model, as in reflective practice, the learner is the key agent: the learner *constructs* his/her own

understanding. Constructivism avers that knowledge cannot be transmitted but recognizes that the formal knowledge base plays an important role in the construction of new knowledge. The reflective practice model developed by Schon focuses primarily on the process through which practitioners improve their practice but does not specifically identify the formal knowledge base as a resource. Constructivism clearly focuses on the important role that the teacher plays in supporting the learning process but defines this role primarily as a facilitator who guides growth by focusing inquiry, engaging students, exploring and challenging ideas, providing resources, assessing student progress, and providing useful feedback. The concept of facilitator is important in reflective practice (Osterman & Kottkamp, 1992), however, determining the agenda or area of inquiry may come from sources other than the facilitator.

Both models also emphasize experimentation as a means for effective learning. Learners will integrate new ideas more easily and soundly into the knowledge base, when they have an opportunity to experience them as effective. The learning process then incorporates different stages of the research method including formation and testing of hypotheses.

Using reflective practice and constructivism in leadership preparation

Although some argue that the principles of constructivism were more readily incorporated into pedagogical practice with adults than with children (Lambert et al., 1995), much of the literature on constructivism is framed within the context of elementary and secondary education. Similarly, although there is increasing interest in the use of reflective practice in administrative preparation, the bulk of the work in the professional development area deals with teacher education. Our purpose here is to integrate these two powerful conceptual frameworks and discuss them within the context of professional development for prospective administrators. How can these two models be integrated within the professional development classroom? How can they be used to foster learning of prospective administrator, and specifically how can they be used to foster the integration of theory and practice?

Neither constructivism, nor reflective practice, are "methods" of teaching; however, both share similar conceptions of learning and both have implications for teaching. They establish criteria to assess learning situations and suggest strategies for effective teaching. The key beliefs about knowledge and learning with accompanying pedagogical guidelines are as follows:

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- Learning is an active process. Knowledge cannot be transmitted. For learning to take place, then, it is necessary to engage the learner enabling the learner to take an active role in determining the direction and progress of learning.
- Learners are not blank slates. Learning process must build on prior experiences and knowledge. For this to take place, learning situations must provide opportunities for students to articulate and represent their knowledge.
- Learning is constructed through experience, particularly problematic experience. As a pedagogical strategy, then, it is necessary to build conceptual conflict and to challenge the adequacy of current knowledge.
- New ideas will be more easily and soundly integrated into the knowledge base, when students experience them as effective. Learning situations must provide opportunities for students to reconceptualize and test the efficacy of new ideas and information in action.

ASSUMPTIONS ABOUT LEARNING	PEDAGOGICAL STRATEGIES
Learning is an active process controlled by the learner.	Engage the learner. Enable learner to play active role in the learning process.
Learners are not blank slates. Learning process must build on prior experiences and knowledge.	Provide opportunities to explore, articulate, and represent knowledge.
Learning is constructed through experience, particularly problematic experience.	Challenge existing views; build conceptual conflict; heighten awareness of "problems".
New ideas will be more easily integrated when students experience them as effective.	Provide opportunities for students to reconceptualize and test the efficacy of new ideas.

A general discussion of these strategies in the context of administrator preparation programs follows.

Engaging the Learner

Both paradigms assume that learning begins with a personal desire to learn. Without this personal investment or engagement, there will be no effective learning. The instructor's initial responsibility, then, is to stimulate the learner's interest in the particular topic. Constructivism and reflective practice both emphasize the importance of conceptual conflict, a "perturbation", a disequilibrium, or problem as a

stimulus for learning. By one definition (Kelsey, 1993) a problem is a discrepancy, a gap between an ideal or desired condition and the current reality.. A problem is also, by definition, relevant. Without personal involvement, there is no problem. As long as existing paradigms satisfy personal needs, there is no incentive to learn and no reason to challengge existing perspectives. Why change, if there's no reason to do so? Why learn if you think you already know the answer?

In some cases, students bring a "need to know" with them when they enter the classroom. Some may be concerned about shortcomings in schooling or administrative practices and be eager to develop a deeper understanding. Others may be aware of problems but fail to see the relevance for themselves. Many others enter prompted by a desire to advance in their career but without specific questions or concerns. At this point, their perspective is uncritical and accepting. If they bring concern or questions to the class, they will be more eager and able to grasp information and ideas that are made available. If not, it's the professor's job to create that incentive, to make the area of study personally relevant, regardless of the area of inquiry.

To do that, the professor must create a sense of problem that has relevance to the learning by identifying discrepancies between current situation and the preferred situation (Senge, 1990). In the professional development arena, these discrepancies can be found -or created-in various ways. Bridges (1992), for example, confronts students with a task for which they lack prior experience. Confronted with a need to know, students are eager to learn. The reflective practice model focuses on discrepancies between intentions, actions, and outcomes. In some cases, actions digress dramatically from espoused standards of behavior. In other cases, accomplishments diverge noticeably from established goals. In each case, the identification of this discrepancy can be the stimulus to reexamine practice and the underlying ideology.

The reflective practice model focuses primarily on individual growth and development and consequently utilizes personal experience and problems drawn from the professional setting; however, the same model can be used effectively to identify problems at an organizational level. For example, schools as organizations espouse equity yet they adopt practices that perpetuate inequity indicating a discrepancy between intended action and action. As a goal, schools set mastery standards for all students but fail to achieve them.

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The goal of reflective practice is change in individual performance. To achieve that change requires that the individual understand his/her own behavior. I believe that Schon would argue that learning would not be optimal until the individual understands the relationship between personal behavior and systemic problems, but acknowledgement of a problem at the organizational level can begin this difficult process of individual learning.

Constructivism identifies another important source of disequilibrium: the contrast between personal action theories and those theories developed as part of the formal knowledge base. Constructists maintain that the teacher facilitates learning by establishing parameters of the inquiry. In a professional development classroom, this is typically the responsibility of the professor who identifies topics and provides at least a minimum of resources to guide student inquiry. These constraints are consistent with constructivist principles and support learning. This formal knowledge can be used as a means to challenge assumptions previously held by students. It's important to note here that formal theory is being used as a tool in the learning process and a resource, not simply as "truth" to be conveyed and absorbed unquestioningly.

Regardless of the focus, the identification of these problems or discrepancies relies on descriptive data. Through observation, whether formal or informal, students and professor gather and present data about problems of practice. The examination of this data serves to identify discrepancies and establishes the basis for continued learning.

The discrepancy, then, is recognition of conceptual inadequacy in a particular context and comes about when an individual recognizes that previously held beliefs or patterns of action no longer provide meaningful explanations or generate predictable outcomes. By definition, these problems can only be generated as part of a process that includes an exploration of personal knowledge or action theories.

Exploring personal beliefs, knowledge, and experience

The word "construct" is not incidental to the concept of constructivism. If we accept that learning is a developmental process growing out of current conceptions, a teacher can no more facilitate learning without understanding what the students already know and believe than a contractor can construct a building without an architectural plan specifying the size and composition of the foundation. With this rationale, constructivism and reflective practice both recognize the importance of exploring existing

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paradigms as part of the learning process. By exploring students' current beliefs and assumptions, the teacher can identify strengths as well as weaknesses and begin to help the student to assess his/her knowledge using criteria rooted in personal and formal theory. What are personal and formal theories about the relationship between actions and outcomes? To what extent is it likely that these theories are valid, i.e. that certain actions lead predictably to certain outcomes?

Schon's conceptualization of reflective practice indicates, however, that developing an awareness of personal knowledge is not an easy task. An understanding of students' ideas requires an exploration of both the espoused theory and the theory-in-use. Eliciting even the espoused theory is difficult because educators are so infrequently asked to articulate their beliefs or values. When asked to outline educational platforms, for example, students often have a great deal of difficulty expressing their beliefs either because they haven't had the opportunity to think about their beliefs or because they lack the conceptual categories or terms that would enable them to describe their views. Developing an understanding of the theory-in-use is far more challenging and, given its direct influence on behavior, more important.

Two strategies facilitate this exploration of ideas: dialogue and observation. Dialogue plays a significant role in learning. Research shows that dialogue and discussion enhance the learning process enabling students to clarify and deepen their understanding. When students have a chance to ask questions, to challenge ideas, and to process their learning verbally, they learn more. The very act of engaging in dialogue supports the learning process, but dialogue is more valuable when it incorporates intellectual conflict. Conflict between and among competing ideas provides a stimulus to engage in learning and challenges students to further develop and refine ideas. (Since organizations typically constrain critical discussion, this opportunity to examine issues outside the bureaucracy is particularly important for prospective administrators.) Conflict may emerge naturally as alternative perspectives --from students, professor, and the formal knowledge base--are expressed. If the conflict is not immediately apparent, the professor can create it.

Reflective practice is essentially a critical assessment of personal practice although the same tools can be used to assess organizational practice as well. The standards for the assessment are based on personal, organizational, or social values and goals. The ability to engage in reflective practice requires an ability to "see" events and actions in new and different ways. To be a reflective practitioner, then, requires

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finely honed observational skills. Clear and careful description of experience (observation) becomes the basis for the later phases of the reflective practice cycle: assessment, reconceptualization, and experimentation. Observation is also one of the most effective ways to develop an understanding of the theories-in-use that shape behavior. Because they are so deeply embedded, often the only way to reveal their presence is by examining practice. By looking at what we do, we can often come to an understanding of the underlying theories. Osterman & Kottkamp (1993) outline a variety of ways to gather descriptive data about practice, including simulations, case studies, critical incidents, direct observation, or journals. Many of these can easily be incorporated into the curriculum and provide a rich context for exploration of theory.

Again, the formal knowledge base is being used in a very unique way. Personal theory and formal theory receive equal consideration at this point. Similarly, personal experience is recognized as a legitimate and important source of information. In fact, if theory and research are valid and relevant to practice, there should be little discrepancy between the two sources. In classes, for example, I typically find that students as a group are able to use their own experience to generate theory that is consistent with ideas expressed in the formal research. This process in itself makes the process of formal research seem less alien and leads students to be more receptive of information gathered through systematic research.

The primary focus for discussion in the classroom continues to be problems of practice. What are the problems and how do we understand the nature of these problems? Is it ineffective action, faulty theories, or some combination thereof? This emphasis on practice generates interest; the emphasis on the ideas underlying action establishes theory as a meaningful part of the discussion. The dual emphasis on personal and formal theory reduces the barriers between theory and practice and engages students in the process of theory-building and theory-testing.

Challenging ideas and facilitating reconceptualization

The on-going dialogue that takes place between teacher and students has multiple purposes. It continues to establish the relevance of the issue for students, encourages students to develop a deeper understanding of their own theories, and enables students to consider alternative (research-based) explanations of the world. From my perspective, this stage of the learning process parallels the initial stages of a research process. In a sense, the teacher and students are sharing different forms of data and

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considering what they know, or think they know, in order to shape hypotheses. Students participate in the dialogue by articulating their beliefs and by sharing their observations. By examining their own practice, students assess their own ideas. The professor supports the discovery process by helping students to see inconsistencies or flaws and by introducing confirming or competing ideas:

> This is the problem as I see it. Do you agree, disagree? What do you think, how do you explain it, what's your theory? What's your evidence? What does the research tell us? How do you account for discrepancies?

Once again, the knowledge base plays a very important role in the learning process as a source of ideas and data about the origin and nature of various problems. This information is included along with the data that students and professor have gathered from their personal experience and becomes a powerful way of assessing existing ideas or practices.

In a constructivist or reflective practice model, the role of the teacher shifts in many ways (Brooks & Brooks, 1993; Osterman, 1992). Similarly, the role of the student changes. Both models expect the students to function as a researcher, to adopt scientific methods as a means of generating and testing hypotheses. Through the dialogic and experiential process described above, students will have had the opportunity to either confirm or question their existing theories. Through careful examination, some will have found that their personal theories are effective and consistent with ideas represented in the formal knowledge base. For them, the issue is not so much reconceptualization as articulation, clarification, and perhaps elaboration. Others will have found that their theoretical orientations were not effective either by their own standards or by standards in the field. Further, they may have explored alternate ideas and strategies described by other students, the professor, or practitioners and researchers whose work is included in the formal knowledge base. At this point, the challenge is to provide opportunities that will enable students to test these new ideas.

Through this dialogic process, students articulate their personal theories and perhaps identify discrepancies between their personal beliefs and those expressed in the formal knowledge base. Through discussion supported by observation and perhaps experimentation, they clarify and reconceptualize their views.

Providing opportunities for experimentation and assessment

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In a constructivist model, as in reflective practice, the ultimate goal of learning is enhanced performance. In both models, the first stage of the learning process can be viewed as consciousness raising: developing an awareness of problems or deficiencies, exploring and assessing various theoretical interpretations. With the need to learn established, students will be more receptive to new information and ideas and will have begun the process of cognitive growth, either revising, clarifying or elaborating their existing theories. If we accept the intractability of the theory-in-use, however, the learning task is far from complete. The goal now becomes one of directly confronting the theory-in-use by introducing behavioral strategies consistent with the new conceptualization. While information can be incorporated into the espoused theory with relative ease, it is more difficult to modify the theory-in-use.

By this point in the process, most students are open to new ideas. For whatever reason, perhaps because the ideas were so consistent with the perceptions they already held, there are always a few students who seem able to absorb everything that they encounter. They wholeheartedly embrace these ideas and, almost intuitively, apply them. Others, however, still withhold judgment: "Yes, it's a good idea, but..." "Yes, it works for *them*, but...." "It seemed to work in *that* school, but..."

One of the ways to confront the theory-in-use is through experimentation. The weight of evidence may support the effectiveness of certain strategies, but unless students accept the validity of these findings, it is unlikely that they will adopt the recommended behavior. Change is difficult even when the change seems rational. The professor can support change by developing activities that provide opportunities for students to apply their knowledge either in classroom simulations or through field-based assignments.

Including opportunities for application is an essential aspect of the learning process for several reasons. First, the application is an opportunity to test theory. For those who already accept the theory, it's a way of reinforcing and confirming. For those reluctant skeptics, the personal experience may provide the verification they need to reject flawed theories and continue to experiment with new ways of acting. In some cases, however, the action research will not yield intended or predicted results. In these situations, a careful assessment of the action may provide important feedback for the student – and for the instructor.

Constructivism and reflective practice emphasizes the importance of assessment and feedback. If learning is an individual process, it is reasonable to expect variations in progress. If the goal is improved practice or simply effective action, the teacher has a responsibility to assess student learning assisting the

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student to move closer toward that goal. Assessment of action projects enable the professor and student to address two important questions: does the student have a thorough understanding of the theoretical principles, and does the student have the requisite skills to apply this knowledge effectively and appropriately? Under the best of circumstances, the curriculum will not only provide opportunities for experimentation, but will also allow time for assessment, feedback, and another effort.

Action assignments serve another important purpose: they provide another opportunity to unearth predominant theories of use. Theories-in-use act as a potent deterrent to new behaviors and are most likely to emerge in an action context. Confronted with a specific task, students -and professor-can begin to experience resistance. They feel uncomfortable, they feel nervous, they're reluctant to complete the task, and they begin to identify all of the reasons for "not doing it." Underlying the resistance is the theory-in-use: "I don't want to do it because…." Insight into these personal belief systems can be very important as a basis for personal change.

Integrating theory and practice

The principles of constructivism and reflective practice suggest that the general strategies lead more effectively to learning in which the ultimate goal is competent action or improved performance. The purpose of this paper, however, was to demonstrate how the application of these principles supports the integration of theory and practice in administration preparation classes. In general, it would seem that these strategies are effective because they redefine the purpose of learning and change the very nature of the conversation about theory and practice.

Practice assumes a conspicuous, explicit, and central role in the learning process. The purpose of the learning process is grounded in and focused on practice. The definitive test of learning is the competent performance, demonstrating the application of effective strategies. Given this objective, knowledge is no longer the "end" of the learning process but merely a means to a more important goal which is effective action in the professional setting. The objective is not merely to understand theory in isolation, but to see how theory can contribute to an understanding of what we do and why. There is a guiding belief that theory has direct relevance to practice and these connections need to be addressed explicitly in the classroom.

If theory is valid, it is because it has utility for the practitioner. In the traditional model, theory is held up as "truth." In this model, ideas, regardless of how well developed and documented, can be tested and weighed against competing ideas, not simply absorbed and regurgitated. The relevance of theory is determined by its effectiveness; and recognizing the student as a researcher/practitioner, the classroom provides the opportunity for students to test theory within the context of their own experience and practice. In the traditional framework, we examine practice through the lens of theory; here we examine theory through the lens of practice. Another article questioning the value of graduate training in educational administration (Haller, Brent, & McNamara, 1997) provides an example of a professor who spent a year as a school principal during a sabbatical leave. When asked if he used the theories and concepts he taught, he replied that he didn't. The necessity of linking theory to practice in the context of the classroom helps to insure that ideas that are taught do in fact have relevance and could support effective practice.

Traditional approaches to educational administration also emphasize the importance of theory for practice but fail to integrate them within the classroom curriculum. (Constructivists, by the way, would define curriculum not only as the content knowledge of the course, but the full range of learning experiences that support learning (Tobin & Tippins, 1993).) The professor, for example, might define course objectives in terms of theoretical understanding and assume that this clear understanding was sufficient for a thorough and appropriate application in the separate world of practice. This model brings practice into the classroom and assesses effectiveness not simply on the basis of knowledge but also on the basis of skilled performance.

In both constructivism and reflective practice, the learning cycle begins with personal theory and experience rather than with the formal knowledge base and gives equal recognition to both, permitting and encouraging students to critically examine both. As students engage in the process of gathering and analyzing data as a means to develop and testing theory, "theory" becomes demystified, more accessible, and perhaps more legitimate.

The application of these principles affects the learning process in other ways as well. One likely outcome is a shift in the nature of the relationship between teacher and student and among students. This comes about in several ways. First, the professor no longer plays the role of expert, "professing" and defending the truth, but acts as a facilitator who helps students to a better understanding of their own ideas

as well as the ideas of the formal knowledge base. In this model, the student and professor share responsibility for learning and both engage in collaborative research as they focus their common efforts on improvements in practice. Secondly, the need to explore individual ideas inevitably personalizes the nature of the dialogue further reducing hierarchical differences and creating a learning partnership between teacher and students. Third, because so much emphasis is placed on sharing ideas and experiences, the students develop a sense of themselves as contributing members of a learning community. While these changes may not directly influence the extent to which students use formal theory to shape their practice, they help to establish a climate of trust and cooperation that should certainly support open dialogue, encourage risk, and facilitate learning.

In sum, constructivism and reflective practice share basic assumptions about knowledge and learning. Central to both is the notion that ideas and action are integral, interdependent, and essential aspects of the learning process. The application of these principles in the professional development setting, therefore, reduces the artificial boundaries between theory and practice, brings both into the classroom, and facilitates the integration of theory into practice.

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